

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-29. (Canceled)

30. (Currently amended) A method of controlling the rate of change of a patient's body temperature using a heat transfer catheter and associated controller, comprising:

providing a heat transfer catheter for insertion into a body cavity, the heat transfer catheter having a heat transfer region thereon;

sensing the patient's body temperature in the body cavity or in another location;

determining the temperature of the catheter heat transfer region;

providing a controller in communication with the heat transfer catheter via conduits through which circulates a heat exchange fluid, the controller being adapted to elevate or depress the temperature of the catheter heat transfer region relative to the body temperature by adding or removing heat from the heat exchange fluid;

selecting a target temperature different than the body temperature;

monitoring the temperature differential between the target temperature and the body temperature; and

actuating the controller to increase or decrease a rate of heat addition or removal from the heat exchange fluid as a function of the temperature differential between the target temperature and the body temperature; and

wherein the steps of sensing, determining and monitoring are accomplished at rates of multiple times a second.

31. (Previously presented) The method of claim 30, wherein the step of setting the temperature of the catheter heat transfer region comprises setting the temperature of the circulating heat exchange fluid.

32. (Previously presented) The method of claim 31, wherein the step of determining the temperature of the catheter heat transfer region comprises sensing the temperature of the circulating heat exchange fluid.

33. (Original) The method of claim 32, further including comparing the target temperature and the temperature of the circulating fluid and using the comparison to adjust the temperature of the circulating fluid.

34. (Original) The method of claim 30, wherein the controller includes a microprocessor, and wherein the steps of monitoring and reducing are accomplished automatically by the microprocessor.

35. (Canceled)

36. (Previously presented) The method of claim 30, further including:

providing operator inputs for the controller to enable manual adjustment of the target temperature and the selected rate of heat addition or removal.

37. (Previously presented) The method of claim 30, further including:

selecting a ramp rate equal to a desired time rate of change of temperature from the body temperature to the target temperature;

setting the initial temperature of the catheter heat transfer region based on the selected ramp rate; and

wherein the step of actuating the controller includes actuating the controller to increase or decrease the rate of heat addition or removal from the heat exchange fluid to obtain the selected ramp rate.